

Why Do My Dairy Calves Not Grow Well After They Are Weaned?



By Donna M. Amaral-Phillips

Proper growth of dairy heifers from weaning until 6 to 8 months of age directly impacts future milk production and economics of heifer rearing programs and, thus, the profitability of the entire dairy operation. Heifers before puberty lay down more muscle relative to fat, resulting in efficient growth when fed the appropriate amounts of energy and protein. Thus, this age group is very efficient at growth and can efficiently use feed dollars. Research continues to show how proper growth during this phase like pre-weaning can positively impact milk production.

Recently, I have been asked the question, “My heifers just do not grow well after weaning, what are some areas I should look at to correct this problem?” I thought it would be good to review some key management areas which effect growth of heifers after weaning. These are outlined in this article.

- ***Make management changes slowly:*** Weaning time is very stressful on dairy calves. The recommendation is to change one management practice at a time and allow calves time to adjust to this change before another change is implemented. For example, calves are fed milk (or milk replacer) once a day for 3 to 4 days before they are weaned off milk completely. They remain on the same grain mixture and in the same housing for another week before another change is made. Then either the housing or grain mix is changed and the calves are again allowed an opportunity to adjust before the final change is made.
- ***Feed the best quality forages and the proper amount and type of grain mix:*** With properly formulated grain mixes, only a very limited amount of forage (less than 10 to 15% of the total diet) should be fed until Holstein heifers are consuming 4 to 5 lbs. of grain (Jersey heifers-3 to 4 lbs. grain). It is imperative that the quality of the hay fed be the best quality since total intake is limited. As shown in the table, a 100-day old heifer will consume about 10 lbs of hay and grain, a diet most likely composed of half hay and half grain, which is similar to a milking dairy cow on a percentage basis.

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Feed intake of Holstein and Jersey heifers from 1 to 8 months of age.			
<i>Age or weight</i>	<i>Expected dry matter intake (lbs/day)</i>	<i>Expected hay equivalent total intake (lbs/day)</i>	<i>% crude protein needed in total diet</i>
<u>Holstein heifers</u>			
Pre-weaning (30 days of age, 143 lbs)	3.0	3.3	21.0
100 days of age (264 lbs)	8.6	9.6	16.6
7.5 months of age (506 lbs)	14.5	16.1	14.4
<u>Jersey Heifers</u>			
Pre-weaning (30 days of age, 100 lbs)	2.2	2.4	22.9
100 days of age (200 lbs)	6.6	7.3	17.8
7.5 months of age (385 lbs)	11.2	12.4	14.4
1 lb hay equivalent = 1 lb grain = 1 lbs dry hay = 0.5 lbs grain + 0.5 lbs hay (Source: Nutrient Requirements of Dairy Cattle, 2021)			

Heifers which are underfed energy do not gain weight and those that are underfed protein do not grow to the proper skeletal size (or height). Thus, it is imperative to feed high quality forages and the proper amount and protein content of a grain mixture. In young heifers, lower protein grain mixes (12-14% crude protein) often times do not allow for adequate intake of protein for skeletal growth when paired with forages testing less than 18-20% crude protein. Hay should always be sampled using a hay probe from 10-20 bales per lot of hay and the best available allocated to these younger heifers. The proper amount of minerals and vitamins should also be included in the grain mix for optimum skeletal growth and overall growth.

Heifers under 6 months of age should not be fed grain mixes that contain urea or other NPN sources. Also, pasture and silages should not be the sole source of forage in heifers under 6 months of age. These heifers are still developing a functional rumen and there is limited capacity to consume forages. Creep feeders may allow for the overconsumption of grain resulting in heifers that are fat and have excess body condition. Feeding lower quality hays may attribute to calves having a “pot belly” appearance.

- ***House in small groups:*** Weaned dairy heifers need to learn how to compete with one another for feedbunk space and learn to interact in a group setting, especially if they are housed individually pre-weaning. To decrease competition at the feedbunk, housing weaned heifers in groups of 6 heifers or less helps them learn how to compete with one another and to compete at the feed bunk resulting in better feed intake. Heifers raised as

a group pre-weaning (i.e. as in an automatic feeder group) should remain as a group and not combined with others.

- ***Adequate feedbunk space and minimal mud to walk through:*** Feedbunk space is critical for this age group. Dairy heifers from 2 to 4 months of age need 12 to 18 inches per head of bunk space. The height of the feedbunk (12 inches from animal standing surface) must be such that they can easily reach the feed in the feed trough. When each group of heifers are added to the facilities, one should check to make sure all heifers can gain access to the feed bunk, have adequate bunk space so all can eat, and they can reach the feed. I have seen incidences where mud found around feed troughs was removed, leaving the feed bunk height higher, and a new set of heifers could not comfortably reach the feedbunk and, thus, could not reach and consume their grain. In addition, walking through mud takes extra energy. Thus, mud and wet hair coats divert energy away from growth, thus heifers do not grow as well as expected.
- ***Prevention of disease:*** Respiratory diseases and/or other diseases, such as coccidiosis, can decrease the health and therefore rate of gain in young dairy heifers. Prevention of these diseases with proper nutrition practices, proper use of respiratory vaccines and providing adequate ventilation in the facilities housing heifers are very important. Calves fed a commercial calf starter with Deccox® need to be changed over to grain mixes containing either Bovatec® or Rumensin® to prevent a potential outbreak of coccidiosis. Deccox®, a common additive in commercial calf starters, is a coccidiostat. In other words, it stops the development of the coccidia at a certain stage of the coccidia's lifecycle. When Deccox® is removed from the diet; the coccidia can then complete their life cycle if a coccidiocide, such as Bovatec® or Rumensin® is not added to the grain mix. (Coccidiocides kill the coccidia at a certain stage of the protozoa's lifecycle.) Besides acting as a coccidiocide, Rumensin® or Bovatec also improve feed efficiency and weight gain.